

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow. After amending the claims as set forth above, claims 4-5, 8, 16-18, and 21-28 are now pending in this application.

Applicants wish to thank the Examiner for the careful consideration given to the claims.

New claims 23-28

Claims 23-28 have been added, and each of the new claims read on the elected invention and species, i.e., Group I and Species II. Thus, consideration of the new claims is respectfully requested.

Rejection of claims 1-2 and 13-14 based on the IADPA and Kim

Claims 1-2 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Instant Application's Description of the Prior Art ("IADPA") in view of U.S. Patent 6,097,457 ("Kim"). Claims 1-2 and 13-14 have been canceled, which renders the rejection of these claims moot. For at least this reason, favorable reconsideration of the rejection is respectfully requested.

Rejection of claims 3 and 15 based on the IADPA, Kim, and Kwon

Claims 3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the IADPA and Kim in view of U.S. Patent 6,486,930 ("Kwon"). Claims 3 and 15 have been canceled, which renders the rejection of these claims moot. For at least this reason, favorable reconsideration of the rejection is respectfully requested.

Rejection of claims 4-6, 16-17, and 21-22 based on the IADPA and Watanabe

Claims 4-6, 16-17, and 21-22 are rejected under 35 U.S.C. 103(a) as being anticipated by the IADPA in view of U.S. Patent 5,150,239 ("Watanabe"). This rejection is traversed for at least the following reasons.

Claim 4 recites an image display element including "an insulator in direct physical contact with the entire exposed surface of at least one of the first and second wires such that no portion of the at least one of the first and second wires is in direct physical contact with the liquid crystal layer...a counter substrate that is disposed opposite to the substrate, wherein the counter substrate is disposed at a second distance from the substrate, and wherein the

insulator is a spacer that prescribes the second distance.” Claim 16 recites similar features. The insulator of claims 4 and 16 can contact with the entire exposed surface of at least one of the first and second wires and prescribe the distance between the substrate and the counter substrate simultaneously. The IADPA, Watanabe, or any combination thereof does not teach or suggest this combination of features.

For example, Fig. 10 of the IADPA clearly shows that the liquid crystal layer 50 contacts a portion of wire 47. Furthermore, the spacer 51 of IADPA can only prescribe the distance between the substrate and the counter substrate, but is not in direct physical contact with the entire exposed surface of at least one of the first and second wires. Thus, the IADPA does not teach an insulator (that is in direct physical contact with the entire exposed surface of at least one of the first and second wires such that no portion of the at least one of the first and second wires is in direct physical contact with the liquid crystal layer) that is also a spacer (that prescribes the second distance between the substrate and counter substrate).

Watanabe does not cure the deficiencies of the IADPA. First, Watanabe does not teach an insulator (that is in direct physical contact with the entire exposed surface of at least one of the first and second wires such that no portion of the at least one of the first and second wires is in direct physical contact with the liquid crystal layer) that is also a spacer (that prescribes the second distance between the substrate and counter substrate). The insulating layer 104 of Watanabe may have direct physical contact with metal wires 103, but it cannot prescribe the distance between the pair of substrates 101. (Fig. 1 of Watanabe.) Watanabe needs to put in an extra spacer 108 for holding the thickness of the liquid crystal layer 107, i.e. prescribing the distance between the pair of substrates 101. (Column 3, lines 17-25 of Watanabe.) Thus, Watanabe teaches an insulating layer 104 and a spacer 108, which are two different elements, and not the same element, as provided in claims 4 and 16. Accordingly, neither Watanabe nor IADPA teaches or suggests a single element for achieving two functions (insulating and prescribing a distance). Accordingly, no combination of Watanabe and IADPA teaches or suggests all the features of claim 4 or claim 16.

Furthermore, the combination of IADPA and Watanabe is improper. Pages 8-11 of the Office Action assert that it would have been obvious...to place the insulating layer 104 of Watanabe in direct physical contact with the entire exposed surface of at least one of a first and second wires of the IADPA. However, if the insulating layer 104 of Watanabe is used to prescribe the distance between the pair of substrates, there will be no place for the liquid crystal layer because the insulating layer 104 of Watanabe will fill the whole cavity between

the first and second substrates; thus, making the device of the IADPA (and Watanabe for that matter) inoperable because there is no liquid crystal layer. A proposed combination cannot be obvious if it makes the device of the primary reference inoperable. (See MPEP 2145¹, 2143.01².)

The PTO provides seven rationales for making the proposed combination on pages 9-11 of the Office Action, which are all improper, as discussed below.

First, the PTO asserts that it would have been obvious to place the insulating layer 104 of Watanabe in direct physical contact with the entire exposed surface of at least one of a first and second wires of the IADPA so as to provide the entire panel uniformly with a prescribed gap and for fixing the alignment of the pair of substrates. It is respectfully submitted that the proposed motivation is not sufficient because the spacer 51 of the IADPA already provides this function, and the insulating layer 104 of Watanabe does not (which is why Watanabe requires spacers 108) so there is no logical reason why one with ordinary skill in the art would consider the insulator layer of Watanabe to fulfill this function when a different element is required to perform it.

Second, the PTO asserts that it would have been obvious to place the insulating layer 104 of Watanabe in direct physical contact with the entire exposed surface of at least one of a first and second wires of the IADPA because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements with no change in their respective functions. However, the insulating layer 104 of Watanabe and the spacer 51 of the IADPA perform different functions and to substitute one for the other changes the function of the element doing the substitution. In addition, neither Watanabe nor the IADPA teaches an insulator that is also a spacer, as detailed above.

Third, the PTO asserts that it would have been obvious to place the insulating layer 104 of Watanabe in direct physical contact with the entire exposed surface of at least one of a first and second wires of the IADPA because the substitution of one known insulator layer for another would have yielded predictable results. However, the insulating layer 104 of Watanabe is not a spacer (as Watanabe teaches the use of spacers 108) and the spacer 51 of the IADPA is not an insulating layer as a portion of the surface wire on which it is disposed is

¹ “[T]he claimed combination cannot change the principle of operation of the primary reference or render the reference inoperable for its intended purpose.”

² “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)”.

exposed. One of skill in the art would not understand the insulating layer 104 of Watanabe and the spacer 51 to be equivalent because they are used for different purposes. Furthermore, one with ordinary skill in the art would not view the insulator layer 104 of Watanabe as a suitable substitute for the spacer 51 of the IADPA because Watanabe, itself, teaches the use of the spacers 108 and the insulating layer 104. If they are equivalent and can provide the same function, why would you need both?

Fourth, the PTO asserts that it would have been obvious to place the insulating layer 104 of Watanabe in direct physical contact with the entire exposed surface of at least one of a first and second wires of the IADPA because the technique for improving a particular class of devices was part of the ordinary skill in the art in view of the teaching of the technique for improvement in other situations. However, there is no teaching that the insulator and the spacer are the same device. Indeed, there is only the teaching of an insulator and spacer as separate elements. (Fig. 1 of Watanabe.) Thus, there is no showing of the use of the technique of supplying the insulator and spacer as the same element in other situations.

Fifth, the PTO asserts that it would have been obvious to place the insulating layer 104 of Watanabe in direct physical contact with the entire exposed surface of at least one of a first and second wires of the IADPA because the technique of providing insulation around wires was recognized as part of the ordinary capabilities of one skilled in the art. However, there is no teaching that the insulator and the spacer are the same device. Indeed, there is only the teaching of an insulator and spacer as separate elements. (Fig. 1 of Watanabe.) Thus, there is no showing that providing an insulator that is the same element as the spacer is within the ordinary capabilities of one skilled in the art.

Sixth, the PTO asserts that it would have been obvious to place the insulating layer 104 of Watanabe in direct physical contact with the entire exposed surface of at least one of a first and second wires of the IADPA because a person of ordinary skill has good reason to pursue known options of providing insulation within his or her technical grasp if this leads to the anticipated success. However, the PTO has not established that there is a finite number of known options and how one skilled in the art would come by these known options.

Seventh, the PTO asserts that it would have been obvious to place the insulating layer 104 of Watanabe in direct physical contact with the entire exposed surface of at least one of a first and second wires of the IADPA because design incentives and market forces provided a reason to make the adaptation. However, there is no teaching that the insulator and the spacer are the same device. Indeed, there is only the teaching of an insulator and spacer as separate

elements. (Fig. 1 of Watanabe.) The reason for the modification (for example, design incentives or market forces) is not a substitute for providing prior art disclosing all the features of the claims.³ Further, the alleged reason does not provide sufficient justification as to why the insulating layer would be used as a spacer.

Because no combination of the IADPA and Watanabe teaches or discloses all the features of claim 4 and 16 and the combination is improper, claims 4 and 16 are not rendered unpatentable over the prior art.

Claims 5, 17, and 21-22 depend from and have all the limitations of either claim 4 or claim 16, and are allowable for at least the reasons set forth above without regard to the further patentable features contained therein.

Claim 6 has been canceled, which renders the rejection of this claim moot.

For at least these reasons, favorable reconsideration of the rejection is respectfully requested.

Rejection of claims 8 and 18 based on the IADPA, Watanabe and Kwon

Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the IADPA and Watanabe in view of U.S. Patent 6,486,930 ("Kwon"). Claims 8 and 18 depend from and have all the limitations of either claim 4 or 16. As previously mentioned, no combination of the IADPA and Watanabe teaches all the features of claims 4 and 16 and the combination is improper. Kwon fails to cure these deficiencies. For at least these reasons, favorable reconsideration of the rejection is respectfully requested.

Allowability of claims 23-28

Claims 23-28 depend from and contain all the features of claim 4 or claim 16, and are allowable for the same reasons as claim 4 or claim 16, without regard to the further patentable features contained therein. For at least this reason, allowance of these claims is respectfully requested.

³ Indeed, the Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.* has not removed the requirement that the prior art reference (or references when combined) must teach or suggest all the claim limitations. In fact, KSR emphasized cases where all features are known. For example, the Supreme court noted three cases *United States v. Adams*, 383 U.S. 39 (1966), *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57 (1969), and *Sakraida v. AG Pro, Inc.*, 425 U.S. 273 (1976), which all dealt with the issue of whether known elements combined together would be obvious. These statements reinforce the concept that the elements of the claim have to be known in the art before they are determined to be combinable or not.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date

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